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ABSTRACT

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Using the Computer for Early Childhood Screening, Writing Objectives, and Developing Local Norms/Records

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Abstract

A computer program has been developed to assist users of DIAL-R, a widely used screening test, in the accurate scoring of young children's performance. In addition to print-out feedback for parents and teachers, the program generates suggested objectives for each child based on the child's chronological age and score for each of the 24 test items. Finally, the program stores up to 200 children's scores at each of the four age levels (2 year olds, 3 year olds, 4 year olds, 5 year olds) to enable administrators to analyse class, school, or district scores and develop local norms if desired.

Using the Computer for Early Childhood Screening, Writing Objectives, and Developing Local Norms/Records

Screening young children and developing appropriate, individualized educational programs, regardless of whether the children's performance on the screening test yields scores of "potential problem," "O.K.," or "potential advanced" is usually a time-consuming task. In addition, keeping track of children on multiple screenings during the preschool years, developing local norms instead of using national or state norms, or building a data base for school or district summary analyses can be both costly and difficult to achieve without massive paperwork. Now a computer program, DIAL-LOG, (Goldenberg, Mardell-Czudnowski, Abrams, and Bushong, 1986) has been developed for these purposes when the site uses DIAL-R. DIAL-R is a widely used screening test which is nationally normed and has acceptable reliability and validity (Mardell-Czudnowski & Goldenberg, 1983, 1984).

There are three parts to the computer program. Part A is designed to assist the screening coordinator. After quickly and accurately inputting the child's information directly from the DIAL-R scoresheet, Part A can perform the following functions:

* calculate accurate chronological age
* apply choice of cut-off points based on alternate distributions (1980 census, all white, all nonwhite) and total test score or subscores (Motor, Concepts, Language)
* display and print all pertinent child information including results based upon selected cut-offs (child report)
* print a hard copy report containing results and a developmental age analysis of each of the 24 individual scores of DIAL-R (detailed child report)

Figure 1 is an example of the child report on a three-year-old child. Figure 2 is an example of a detailed child report for the same child. School personnel could decide which reports to share with parents and teachers or place in school files.

Insert Figures 1 and 2 about here

Part B is the suggested activities program which works in conjunction with Part A and uses an analysis of the inputted results for a given child, producing a hard copy listing of suggested objectives for the teacher and/or parent in each of the three test areas (Motor, Concepts, Language). These objectives are specifically structured for the child based upon his or her age and responses to each item on DIAL-R. They enable staff to initiate appropriate objectives for a child with special needs, but they also direct the regular classroom teacher and/or the parent to the particular objectives which would be suitable for every child. Thus Part B provides a list of suggested objectives for any children whose DIAL-R item scores are below their chronological age. This list includes objectives starting at the age they actually achieved on the test item and continues through their present chronological age. In addition, it provides advanced objectives for any children whose scores indicate they are functioning at their chronological age on any tasks. Figure 3 shows the suggested objectives in the Language area for the child whose scores were shown in Figures 1 and 2.

Insert Figure 3 about here

Using the Language area as an example, this child scores `0' (below 2 years old) on Item 6-Classifying Foods so the suggested objectives range from age 2 through age 3 (her current age). On Item 7-Problem Solving, she scored `1' (2-0 to 2-11 years old). Since she is functioning as a two-year old, the objectives are designed to bring her to her current age level of three. On four items (1, 4, 5, and 8), she is functioning at age level so the program stated that fact and indicated the next level of objectives, in this case, the four-year-old level. Finally, on two items, Giving Personal Data and Remembering, she scored beyond her current age level. Thus no activities were listed for these two tasks.

Part C is the record systems program which also works in conjunction with Part A and allows the user to build a file by storing the results of any designated child or children. Up to 200 children can be stored for each of the four age levels. This program can then process the file to generate the following information:

* an alphabetical listing, by child's last name, of child report results
* an alphabetical listing of children's results by school (up to 26 schools)
* charts of distributions by age levels according to the three area scores and the total scores
* percentiles, standard deviations, and standard errors of measurement for development of local norms and interpretation of data

While only 11% of all public elementary schools in the United States had computers in 1981, by 1983 62% had at least one microcomputer. It is estimated that by now, this percentage is up to 90-95%. Thus, it is conceivable that most sites serving preschool children will have access to the hardware to put this type of software into use. It is, therefore, relevant for such sites to know that their microcomputer can serve them in additional ways.

References

Goldenberg, D., Mardell-Czudnowski, C., Abrams, P. and Bushong, R. (1986) DIAL-LOG. Highland Park, IL: DIAL, Inc.

Mardell-Czudnowski, C. & Goldenberg, D. (1983). DIAL-R (Developmental Indicators for the Assessment of Learning-Revised) Manual. Edison, NJ: Childcraft Education Corporation.

Mardell-Czudnowski, C. & Goldenberg, D. (1984). Revision and restandardization of a preschool screening test: DIAL becomes DIAL-R. Journal of the Division for Early Childhood, 8(2),, 149-156.

Figure 1

DIAL-R Child Report

Child's Name:	Gladd, Ima	
School Code:	B	
Child's Sex:	Female	
Child's C.A.:	3-6	
Birth date:	March 16, 1982	
Test date:	September, 20, 1985	
Hearing score:	+	o.k.
Vision score:	-	refer for additional observation
Motor score:	12	
Results:		o.k.
Concepts score:	13	
Results:		o.k.
Language score:	16	
Results:		o.k.
DIAL-R score:	41	
DIAL-R results:		o.k.
Motor observ:	2	
Concepts observ:	1	
Language observ:	2	
Observ score:	5	
Observ results:		refer for additional observation

Comments:

Figure 2

DIAL-R Detailed Child Report

Child's Name: Gladd, Ima
Child's C.A.: 3-6

Area	Scaled Score	Developmental Age
Motor		
1. Catching	0	Below 3 years old
2. Jump, Hop, and Skip	2	3-0 - 3-11 years old
3. Building	3	4-0 - 4-11 years old
4. Touching fingers	3	4-0 - 4-11 years old
5. Cutting	2	3-0 - 3-11 years old
6. Matching	1	2-0 - 2-11 years old
7. Copying	1	2-0 - 2-11 years old
8. Writing name	-	Task for older child
Concepts		
1. Naming colors	2	3-0 - 3-11 years old
2. Identify body parts	3	4-0 - 4-11 years old
3. Counting - rote	2	3-0 - 3-11 years old
4. Counting - meaningful	2	3-0 - 3-11 years old
5. Positioning	2	3-0 - 3-11 years old
6. Identifying concepts	2	3-0 - 3-11 years old
7. Naming letters	-	Task for older child
8. Sorting chips	-	Task for older child
Language		
1. Articulating	2	3-0 - 3-11 years old
2. Giving personal data	3	4-0 - 4-11 years old
3. Remembering	4	5-0 - 5-11 years old
4. Naming nouns	2	3-0 - 3-11 years old
5. Naming verbs	2	3-0 - 3-11 years old
6. Classifying foods	0	Below 2 years old
7. Problem solving	1	2-0 - 2-11 years old
8. Sentence length	2	3-0 - 3-11 years old

Comments:

Figure 3

Suggested Language Activities

Child's Name: Gladd, Ima
Child's C.A.: 3-6

Suggested Language activities can be initiated with continuous physical assist; intermittant physical assist; verbal and/or graphic assist, cue or model; and without assistance when requested.

1. Articulation

Age	Suggested Activity
	Functioning at present age level.
4.	The child will repeat the sounds of N, NG, W, H, G, and vowel blends.
4.	The child will initiate the sounds of N, NG, W, H, G, and vowel blends.

2. Giving Personal Data

Age	Suggested Activity
	Functioning above present age level.

3. Remembering

Age	Suggested Activity
	Functioning above present age level.

4. Naming Nouns

Age	Suggested Activity
	Functioning at present age level.
4.	The child will point to pictures of less common objects such as an ambulance, jet, rocket, fire engine, typewriter, camera, or telescope when requested.
4.	The child will label pictures of less common objects such as a camera, subway, elevator, and tractor when requested.

5. Naming Verbs

Age	Suggested Activity
	Functioning at present age level.
4.	The child will point to pictures representing verb forms such as to comb, to write, and to go to the hospital.
4.	The child will verbally label pictures representing less common verb forms such as to roll, to love, and to share.

6. Classifying Foods

Age	Suggested Activity
2.	The child will categorize/classify two objects such as 2 edible items to fit the category of foods.
3.	The child will categorize/classify four objects such as 4 edible items to fit the category of foods.

7. Problem Solving

Age	Suggested Activity
3.	The child will describe a clear solution to simple problems such as what to do about hunger.
3.	The child will describe a related solution to problems such as what to do about darkness or rainy weather.

8. Sentence Length

Age	Suggested Activity
	Functioning at present age level.
4.	The child will initiate complete sentences of at least 5-6 words.

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